Greening Your Building Toward Your Bottom Line

Thomas Properties Group, Inc. developed the Joe Serna Jr. / Cal/EPA Headquarters Building project as a Public-Private partnership with the City of Sacramento. The project is a response to the State of California Department of General Services RFP for a new build-to-suit headquarters for the California Environmental Protection Agency. The 25-story, 950,000 square foot office building was completed in early 2001 and is located in downtown Sacramento. It still stands today as the city's largest commercial high-rise real estate development project. The Joe Serna Jr. / Cal/EPA Building is recognized nationally as one of the most energy efficient and sustainable commercial office developments in the country.

As operators of this 950,000 square foot project, Thomas Properties Group (TPG) has incorporated state of the art green building practices. All janitorial, maintenance, tenant improvements, and equipment replacements are carried out incorporating practices and materials that improve air quality, reduce energy usage, and maximize resource re-utilization, reduction, and recycling/recyclables.

In having Cal/EPA as the sole tenant and their mission statement for the headquarters building being "reducing their environmental footprint in and around the building", it's safe to say that incorporating these state of the art green building practices is much easier here than in a multi-tenanted building. TPG has found that this building has become a perfect laboratory to determine if these practices can work in a class A environment. A nice surprise we found after the implantation of these practices was that our operating expenses significantly reduced. We found out that these practices were not only good for the environment, but also good for business.

Our first green building practice that was rolled out was our recycling program. California Integrated Waste requested that TPG put together this program and in 2001, we did. The program called, "Gone Today – Here Tomorrow – Recycle turned the staffs normal trash can into a mixed paper recycle bin and gave each tenant their own desk top small garbage can. In addition to the desk side mix paper bin we have 210 three in one bins that collect white paper, cans bottles and glass and mixed paper.

The program enables every trashcan to realize its potential and become a recycling container. Cal/EPA is already accustomed to removing bottles, cans and plastic from the waste stream. By eliminating the wet garbage from the desk side container there is no reason to line with a plastic bag. We create a "pulp" receptacle, the contents of which are entirely recyclable. With the size of this building, we will eliminate approximately 1,700 cases annually of plastic bags from the waste stream.

Our average cost per ton of material disposed of at the landfill is approximately $50.00. Therefore, the diversion of 202.7 tons of material saved our operation $10,135. The elimination of garbage can liners in each office space eliminated $65,000 in annual purchases. Likewise, the use of reusable cloth bags in the centrally located recycling bins saves $27,000 per year.

We originally budgeted for trash removal 3 times per week. The cost for removal is the same if the bin is full or half-full. Managing our waste stream, we have been able to cut our trash removal pick-ups to less than twice a month. With 3,000 employees, that is a huge savings. The average cost for waste removal in downtown Sacramento is $0.05 p.s.f., with our limited pick-ups and recycling programs, we are actually making money in our waste account.

When the electricity crunch of 2000/2001 began in California, Thomas Properties Group began exploring new and creative ways to reduce energy usage immediately. We put together a plan to have the janitorial staff clean mostly during daylight hours (when occupants are in the building working) thereby reducing the amount of after hour lighting needed to provide the same service.

After convincing our tenant that this would work it was implemented in January of 2002. On the day of its implementation the State of California's Governor asked that all State Agencies find a way to reduce their energy consumption by eight (8%) percent. Upon implementation of this schedule the Joe Serna Jr. Cal/EPA Headquarters Building was already reducing consumption by this amount.

Currently, the janitorial staff cleans during the day rather than at night thus preventing all of the lights being turned on at night to allow for cleaning. The schedule is set up so that the day crew comes in at 11:00 am and begins the dusting, cleaning, and silent vacuum cleaning of the building (vac's similar to what you would see in a movie theater). This work also includes the removal of recycled materials. This work is completed around 5:00 pm. From 5:00PM – 6:00PM they remove the wet garbage. From 6:00PM – 8:00PM they clean restrooms just using core lights.

At 6:00 pm all staff lighting is shut off. Interior restroom and corridor lights are left on so that these areas can be cleaned and completed by 8:00 pm. The carpet cleaning and floor maintenance is performed by a five person utility crew from 5:30 pm until 2:00 am. Their work is typically focused on one floor and we will then turn on the lights only in the area they are working.

As a result of this change we have not only reduced energy consumption by 8% but also incurred utility savings' of $100,000 annually. As all property managers know, the majority of tenant complaints are regarding janitorial issues. Now that the employees see our janitorial staff working, our janitorial complaints have dropped more than 70%. This equates to $110,000 of additional labor hours. The tenants have now become our janitor's supervisors, thus eliminating the calls to property management regarding thefts. Furthermore, since the working hours are ending earlier, for the first time in their janitorial careers, they are able to put their children to bed at night. This has reduced our staff turnover significantly and eliminated continuous training.

Thomas Properties Group and Cal/EPA are committed to minimizing waste from our building, and our Waste Reduction Program is continually looking for creative, cost effective ways of making the building's operations more resource efficient. Worm bins

were introduced to the building in 2001 and have been proven to be a huge success. These worms are kept in small plastic containers with lids that fit neatly under a desk or a side chair. The worms live amongst a bedding material made of fiber, peat moss, and other organic materials. Their diet consists of fruit and vegetable scraps leftover from staff's meals that are buried in the bedding material. Staff who participate are lovingly called "Worm Wranglers" and tend to the worms needs. A worm's needs are few: a little moisture, regular feedings, and an occasional change of bedding. The by-product of this process, worm castings or worm manure, is used as a nutrient rich soil amendment in the landscaping around the building.

We also promote Large-Scale Vermicomposting through our café. The staff are utilizing a vermicomposting system to manage the organic materials generated during food preparation in our on-site cafeteria. This bin is located inside the loading dock; the café workers can easily transport the material collected each day. This organic material collected each day is placed in the bin for processing by approximately 30,000 worms. The finished product, worm castings, is again used in the landscape around the building.

We have estimated that our vermicomposting program is diverting approximately 10 tons of waste from landfills.

Indoor Air Quality has always been a big concern for TPG and we were committed to not introduce chemicals into the building that would affect air quality. We will only use low or zero V.O.C. and non-odorous chemicals. We have reduced our daily cleaning chemicals to only three and one we use 70% of the time. We have an integrated pest management program that uses only baiting and trapping.

In 2003, we introduced waterless urinals to the building. TPG held a ribbon cutting ceremony along with an orientation program educating the tenants. This pilot program on four floors has been very successful with no smell and no longer any work orders for stuck valves or continuous running water. In looking over work orders for a 12 month period prior to this installation, we noted we had 110 labor hours of engineers repairing urinals. When implemented throughout the building, we will save over 1,000,000 gallons of water annually.

Thomas Properties Group has also created an employee merit system called Employee Achievement Rewards System (E.A.R.S.) for contract employees rewarding them for quantifiable operational savings ideas. After the first year of implementation, we paid out over $10,000 resulting in over $100,000 of net operational savings.

We stated earlier that these practices were not only good for the environment but good for business. Our bottom line savings are approximately $1.00 p.s.f. less than downtown Sacramento averages. That is $1,000,000 per year and then put a 7% capitalization rate and over $14,000,000 of value has been added the building. An additional benefit would be from the marketing side, what a tremendous way to differentiate yourself from your competition in a stale real estate economy.

Examples of Actual Savings

	Cal/EPA 2003	Sacramento Downtown EER
❖ Waste Removal	$0.00	$0.05
❖ Cleaning Supplies	$0.05	$0.14
❖ Electricity	$0.99	$1.59
❖ Filters	$0.03	$0.06
❖ Water	$0.02	$0.06
❖ Landscape	$0.05	$0.09
Partial Total	$1.14	$1.99
Difference	$0.85 p.s.f. annually	
Savings	$807,500	

Labor Hours Reduction Savings

- **Janitorial** $110,000
- **Engineering** $ 50,000
- **EARS not noted above** $ 40,000